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EXAMINER

MOORE, KARLA A

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1763

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PAPER

Please find below and/or attached an Office communication concerning this application or proceeding.

The time period for reply, if any, is set in the attached communication.



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**BEFORE THE BOARD OF PATENT APPEALS
AND INTERFERENCES**

Application Number: 10/812,086
Filing Date: March 30, 2004
Appellant(s): MAKINO ET AL.

MAILED
AUG 30 2007
GROUP 1700

Melvin Kraus
For Appellant

EXAMINER'S ANSWER

This is in response to the appeal brief filed 30 April 2007 appealing from the Office
action mailed 22 June 2006.

(1) Real Party in Interest

A statement identifying by name the real party in interest is contained in the brief.

The following are the related appeals, interferences, and judicial proceedings known to the examiner which may be related to, directly affect or be directly affected by or have a bearing on the Board's decision in the pending appeal:

Application Serial No. 10/656,334 remains pending.

Application Serial No. 10/812,087 has issued as U.S. Patent No. 7,247,207.

(3) Status of Claims

The statement of the status of claims contained in the brief is correct.

(4) Status of Amendments After Final

The appellant's statement of the status of amendments after final rejection contained in the brief is correct.

(5) Summary of Claimed Subject Matter

The summary of claimed subject matter contained in the brief is correct.

(6) Grounds of Rejection to be Reviewed on Appeal

The appellant's statement of the grounds of rejection to be reviewed on appeal is substantially correct. The changes are as follows:

Claims 19 and 22 stand rejected under 35 USC 103(a) as being unpatentable over U.S. Patent No. 6,312,525 to Bright et al. in view of U.S. Patent No. 4,852,516 to Rubin et al. See new grounds of rejection, below.

Claims 20 and 21 stand rejected under 35 USC 103(a) as being unpatentable over Bright et al. in view of Rubin et al., further in view of U.S. Patent No. 6,649,019 to Bernard et al. See new grounds of rejection, below.

NEW GROUND(S) OF REJECTION

As pointed out by Applicant in the Appeal Brief, the rejections of claims 19-22 under 35 USC 112, second paragraph were withdrawn in an Advisory Action mailed 22 June 2006, which was in response to the After Final Amendment filed 5 June 2006. In the same Advisory Action it was indicated that although the amendment was being entered, for purposes of appeal the status of claims would remain "rejected". This is because claims 19-22 are drawn to the same subject matter as claims 14-17, respectively, although there are slight stylistic differences in the wording. As can be seen below, the new grounds of rejection with respect to claims 19-22 are made using the same art and the same grounds of rejection that was previously applied to claims 14-17 in the Final Rejection. The rejection of claim 13, below, is copied from the final action so that the rejections of claims 19-22, which depend from claim 13, are easier to read and understand.

Claims 13, 19 and 22 are rejected under 35 U.S.C. 103(a) as being unpatentable over U.S. Patent No. 6,312,525 to Bright et al. in view of U.S. Patent No. 4,852,516 to Rubin et al.

Bright et al. disclose a vacuum processing apparatus substantially as claimed and comprising: an atmospheric transfer block including a transfer box (Figure 1, 300) inside of which an object wafer to be processed is transferred under an atmospheric condition by a transfer robot (306) disposed therein, the transfer box having a plurality of wafer cassettes (302) installed at a front surface portion of the transfer box and connected thereto, the vacuum transfer chamber enabling transfer of the object wafer therein under a vacuum condition; at least one vacuum processing chamber (14) disposed at a rear or side of the vacuum transfer chamber and being connected thereto, the at least one vacuum processing chamber being supplied with a gas () and enabling processing of the object wafer transferred under the vacuum condition by a plasma generated therein; and a plurality of connector portions of utility paths under the apparatus (Figures 2 and 3, 34 and 46), wherein the utility paths enable supply of utilities including the gas supplied to the vacuum transfer chamber or the vacuum processing chamber and enables discharge of an exhaust from the vacuum transfer chamber or the vacuum processing chamber including the utilities supplied thereto (column 6, rows 13-36).

However, Bright et al. do not explicitly teach the plurality of connector portions of utility paths being disposed substantially linearly under a connection portion of the transfer box and the vacuum transfer chamber, and being disposed at the rear surface

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portion of the transfer box. Nor do Bright et al. explicitly teach that any of the gases are supplied from the building having the vacuum processing apparatus installed therein (i.e. the same building in which the processing apparatus is installed).

Rubin et al. disclose providing a plurality of detachable, modular processing chambers (Figures 1-2 and 7, 100) that form a multi-chamber processing apparatus each with connections (174) to service facilities below the individual processing chambers and supplied from a building having the processing chambers installed therein (via a conduit, 172) for the purpose of providing a unique and flexible base for future expansion and change, as well as providing each of the modular processing chambers as an independent, self-contained unit adapted to perform a specified dedicated function or operation (column 1, row 64 through column 2, row 13 and column 5, rows 63 through column 6, row 28 and column 6, rows 45-64). With respect to the recitations drawn to the plurality of connector portions being disposed substantially linearly under a connection portion of a transfer box and a transfer chamber, it is noted that the various connection openings in the apparatus of Rubin et al. may be provided below any chamber. This would include load lock chambers (16) in Bright et al. which are the connection portion between the transfer box and transfer chamber. Further, each of the connection openings in Rubin et al. is provided over substantially the entire area of the apparatus (see Figures 3 and 5), and thus would be disposed at a rear surface of a chamber (e.g. transfer box) where rear is interpreted to mean side facing another downstream chamber. Where rear surface is interpreted to mean below or

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underneath the chamber, the connector portions provided in Rubin et al. also meet this interpretation (see Figures 1 and 2).

It would have been obvious to one of ordinary skill in the art at the time the Applicant's invention was made to have provided a plurality of detachable, modular processing units forming multi-chamber processing apparatus each with connections to service facilities below the individual processing chamber in Bright et al. in order to provide a unique and flexible base for future expansion and changer as well as to provide each of the modular processing chambers as an independent self-contained unit adapted to perform a specified dedicated function or operation as taught by Rubin et al.

Regarding claim 19, the utilities may include plural kinds of gases, water and air supplied from the building (column 6, rows 6-8).

Regarding claim 22, with respect to the recitations drawn to the plurality of connector portions being disposed substantially linearly under a connection portion of a transfer box and a transfer chamber, it is noted that the various connection openings in the apparatus of Rubin et al. may be provided below any chamber. This would include load lock chambers (16) in Bright et al. which are the connection portion between the transfer box and transfer chamber.

Claims 20 and 21 are rejected under 35 U.S.C. 103(a) as being unpatentable over Bright et al. and Rubin et al as applied to claims 13, 19 and 22 above, and further in view of U.S. Patent No. 6,649,019 to Bernard et al.

Bright et al. and Rubin et al. disclose the invention substantially as claimed and as described above.

However, Bright and Rubin et al. fail to teach the connector portions of the utility paths connect with paths arranged under a floor of the building in which the vacuum processing apparatus is installed.

Bernard et al. teach providing connector portions of utility paths of a processing apparatus under a floor (Figure 4, 36) of the building in which the apparatus is installed for the purpose of enabling the floor area required to be reduced, leaving the space around the apparatus free to enable operators to intervene on the apparatus without hindrance (column 8, rows 4-9).

It would have been obvious to one of ordinary skill in the art at the time the Applicant's invention was made to have provided connector portions of the utility paths of the processing apparatus in Bright et al. and Rubin et al. under the floor of the building in order to enable the floor area required to be reduced, leaving the space around the apparatus free to enable operators to intervene on the apparatus without hindrance as taught by Bernard et al.

Regarding claim 21, with respect to the recitations drawn to the plurality of connector portions being disposed substantially linearly under a connection portion of a transfer box and a transfer chamber, it is noted that the various connection openings in the apparatus of Rubin et al. may be provided below any chamber. This would include load lock chambers (16) in Bright et al. which are the connection portion between the transfer box and transfer chamber.

(7) Claims Appendix

The copy of the appealed claims contained in the Appendix to the brief is correct.

(8) Evidence Relied Upon

No evidence is relied upon by the examiner in the rejection of the claims under appeal.

4,852,516	RUBIN et al.	08-1989
5,855,681	MAYDAN et al.	01-1999
6,312,525	BRIGHT et al.	11-2001
6,649,019	BERNARD et al.	11-2003

(9) Grounds of Rejection

The following ground(s) of rejection are also applicable to the appealed claims:

Claims 12-14 and 17 are rejected under 35 U.S.C. 103(a) as being unpatentable over U.S. Patent No. 6,312,525 to Bright et al. in view of U.S. Patent No. 4,852,516 to Rubin et al.

Bright et al. disclose a vacuum processing apparatus substantially as claimed and comprising: an atmospheric transfer block including a transfer box (Figure 1, 300) inside of which an object wafer to be processed is transferred under an atmospheric condition by a transfer robot (306) disposed therein, the transfer box having a plurality

of wafer cassettes (302) installed at a front surface portion of the transfer box and connected thereto, the vacuum transfer chamber enabling transfer of the object wafer therein under a vacuum condition; at least one vacuum processing chamber (14) disposed at a rear or side of the vacuum transfer chamber and being connected thereto, the at least one vacuum processing chamber being supplied with a gas () and enabling processing of the object wafer transferred under the vacuum condition by a plasma generated therein; and a plurality of connector portions of utility paths under the apparatus (Figures 2 and 3, 34 and 46), wherein the utility paths enable supply of utilities including the gas supplied to the vacuum transfer chamber or the vacuum processing chamber and enables discharge of an exhaust from the vacuum transfer chamber or the vacuum processing chamber including the utilities supplied thereto (column 6, rows 13-36).

However, Bright et al. do not explicitly teach the plurality of connector portions of utility paths being disposed substantially linearly under a connection portion of the transfer box and the vacuum transfer chamber, and being disposed at the rear surface portion of the transfer box. Nor does Bright et al. explicitly teach that any of the gases are supplied from the building having the vacuum processing apparatus installed therein (i.e. the same building in which the processing apparatus is installed).

Rubin et al. disclose providing a plurality of detachable, modular processing chambers (Figures 1-2 and 7, 100) that form a multi-chamber processing apparatus each with connections (174) to service facilities below the individual processing chambers and supplied from a building having the processing chambers installed

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therein (via a conduit, 172) for the purpose of providing a unique and flexible base for future expansion and change, as well as providing each of the modular processing chambers as an independent, self-contained unit adapted to perform a specified dedicated function or operation (column 1, row 64 through column 2, row 13 and column 5, rows 63 through column 6, row 28 and column 6, rows 45-64). With respect to the recitations drawn to the plurality of connector portions being disposed substantially linearly under a connection portion of a transfer box and a transfer chamber, it is noted that the various connection openings in the apparatus of Rubin et al. may be provided below any chamber. This would include load lock chambers (16) in Bright et al. which are the connection portion between the transfer box and transfer chamber. Further, each of the connection openings in Rubin et al. is provided over substantially the entire area of the apparatus (see Figures 3 and 5), and thus would be disposed at a rear surface of a chamber (e.g. transfer box) where rear is interpreted to mean side facing another downstream chamber. Where rear surface is interpreted to mean below or underneath the chamber, the connector portions provided in Rubin et al. also meet this interpretation (see Figures 1 and 2).

It would have been obvious to one of ordinary skill in the art at the time the Applicant's invention was made to have provided a plurality of detachable, modular processing units forming multi-chamber processing apparatus each with connections to service facilities below the individual processing chamber in Bright et al. in order to provide a unique and flexible base for future expansion and change as well as to provide each of the modular processing chambers as an independent self-contained

unit adapted to perform a specified dedicated function or operation as taught by Rubin et al.

With respect to claim 14, the utilities may include plural kinds of gases, water and air supplied from the building (column 6, rows 6-8).

Regarding claim 17, with respect to the recitations drawn to the plurality of connector portions being disposed substantially linearly under a connection portion of a transfer box and a transfer chamber, it is noted that the various connection openings in the apparatus of Rubin et al. may be provided below any chamber. This would include load lock chambers (16) in Bright et al. which are the connection portion between the transfer box and transfer chamber.

Claims 15 and 16 are rejected under 35 U.S.C. 103(a) as being unpatentable over Bright et al. and Rubin et al. as applied to claims 12-14 and 17 above, and further in view of U.S. Patent No. 6,649,019 to Bernard et al.

Bright et al. and Rubin et al. disclose the invention substantially as claimed and as described above.

However, Bright and Rubin et al. fail to teach the connector portions of the utility paths connect with paths arranged under a floor of the building in which the vacuum processing apparatus is installed.

Bernard et al. teach providing connector portions of utility paths of a processing apparatus under a floor (Figure 4, 36) of the building in which the apparatus is installed for the purpose of enabling the floor area required to be reduced, leaving the space

around the apparatus free to enable operators to intervene on the apparatus without hindrance (column 8, rows 4-9).

It would have been obvious to one of ordinary skill in the art at the time the Applicant's invention was made to have provided connector portions of the utility paths of the processing apparatus in Bright et al. and Rubin et al. under the floor of the building in order to enable the floor area required to be reduced, leaving the space around the apparatus free to enable operators to intervene on the apparatus without hindrance as taught by Bernard et al.

Regarding claim 16, with respect to the recitations drawn to the plurality of connector portions being disposed substantially linearly under a connection portion of a transfer box and a transfer chamber, it is noted that the various connection openings in the apparatus of Rubin et al. may be provided below any chamber. This would include load lock chambers (16) in Bright et al. which are the connection portion between the transfer box and transfer chamber.

Claims 18 and 23 are rejected under 35 U.S.C. 103(a) as being unpatentable over Bright et al. and Rubin et al as applied to claims 12-14 and 17 above, and further in view of U.S. Patent No. 5,855,681 to Maydan et al.

Bright et al. and Rubin et al. disclose the invention substantially as claimed and as described above.

However, Bright and Rubin et al. fail to teach providing display units disposed at the rear surface portion of the transfer box for enabling display of a status of a utility.

Maydan et al. teach providing display units at various locations for the purpose providing an interface between operators and technicians and a processing system (column 20, row 65 through column 21, row 18).

It would have been obvious to one of ordinary skill in the art at the time the Applicant's invention was made to have provided display units in Bright et al. and Rubin et al. at locations where the operators and/or technicians would be able to interface with the system as taught by Maydan et al.

(10) Response to Argument

(A) See new grounds of rejection, above.

(B) Initially, it is pointed out that the majority of Applicant's arguments regarding rejections based upon the combination of Bright et al. and Rubin et al. are not directed towards the actual rejection made above and in the final rejection. Applicant's arguments assume that the "facilities panel" (Figure 4, 48) of Bright et al. must be interpreted as the "a plurality of connector portions of utility paths" as recited in Applicant's claims. This is not what is pointed out and/or interpreted as the "a plurality of connector portions of utility paths" in the rejection of the claims. Nor, is there any reason that Applicant's broadly written recitation must be interpreted, as such. Instead, in the standing rejection of Applicant's claims, with respect to Bright et al., forelines (Figures 2 and 3, 34) and conduits (Figures 2 and 3, 46) are interpreted as "a plurality of connector portions of utility paths" because these structures provide for the connection of the vacuum processing apparatus to a vacuum source and other facilities (e.g. chilled

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water, clean dry air, heat exchangers, and non toxic gases), respectively. Also see column 6, rows 10-46. It is noted that in Bright et al. at least forelines (34) are provided substantially linearly under a connecting portion of the transfer box and the vacuum transfer chamber, and being disposed at the rear surface portion of the transfer box (i.e. under the load lock chamber). As pointed out in the final rejection and above, Rubin et al. disclose a multi-chamber processing apparatus and teach providing "a plurality of connector portions" for connecting utilities to the apparatus below modular processing chambers (including load lock chambers) for the purpose of providing a unique and flexible base for future expansion and change as well as to provide each of the modular processing chamber as an independent self-contained unit adapted to perform a specified dedicated function or operation. Thus, Rubin et al. provide valid reason(s) for modifying the apparatus of Bright et al. to include a plurality of connector portions provided substantially linearly under a connecting portion of the transfer box and the vacuum transfer chamber, and being disposed at the rear surface portion of the transfer box (i.e. under the load lock chamber).

Regarding the length of time lapsed between the publication of Bright et al. and Rubin et al., Examiner does not believe that the length of time between the publication dates should have any bearing on the validity of the above rejections, as Examiner is not aware of any mandate for inventors to incorporate all known subject matter presented in related prior art into their inventions in order to demonstrate they are aware of such prior art or that it would have been obvious to incorporate such subject matter.

With respect to Applicant's argument that Examiner is utilizing any interpretation necessary in an attempt to meet claim limitations, Examiner submits that what is actually being attempted is to demonstrate to Applicant how broad the claim limitations at issue actually are.

With respect to claims 14 and 17, which further define types of utilities that Applicant thinks are not disclosed in the art, Examiner submits that they are disclosed in the prior art as pointed out above and that regardless Applicant's "arguments" amount to a general allegation that the claims define a patentable invention without specifically pointing out how the language of the claims patentably distinguishes them from the references.

(C) Regarding the rejections based on the disclosures of Bright et al., Rubin et al. and Bernard et al., Applicant appears to be arguing that because the features recited in the independent claim(s) are not found in the prior art and that because Bernard et al. does not make up for these perceived deficiencies, these claims are allowable also. Examiner disagrees with the characterization of the independent claims and the relied upon prior art for the reasons set forth above. It is also pointed out that Bernard et al. do fairly teach the limitations of claims 15 and 16 as set forth in the Final rejection and as repeated above.

(D) With respect to the rejections based on the disclosures of Bright et al., Rubin et al. and Maydan et al., Applicant argues that Maydan et al. does not specifically teach the presently claimed exact locations for providing displays. Examiner does not argue that they do. Rather, Examiner has provided a teaching that is obvious to one of

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ordinary skill in the art to provide displays for operators of apparatus at a plurality of places that provide for more convenient control and observation of the apparatus as taught by Maydan et al. Examiners maintains that it would have been obvious to one of ordinary skill in the art to use this teaching and provide displays where needed.

(11) Related Proceeding(s) Appendix

No decision rendered by a court or the Board is identified by the examiner in the Related Appeals and Interferences section of this examiner's answer.

For the above reasons, it is believed that the rejections should be sustained.

This examiner's answer contains a new ground of rejection set forth in section (9) above. Accordingly, appellant must within **TWO MONTHS** from the date of this answer exercise one of the following two options to avoid *sua sponte* **dismissal of the appeal** as to the claims subject to the new ground of rejection:

(1) **Reopen prosecution.** Request that prosecution be reopened before the primary examiner by filing a reply under 37 CFR 1.111 with or without amendment, affidavit or other evidence. Any amendment, affidavit or other evidence must be relevant to the new grounds of rejection. A request that complies with 37 CFR 41.39(b)(1) will be entered and considered. Any request that prosecution be reopened will be treated as a request to withdraw the appeal.

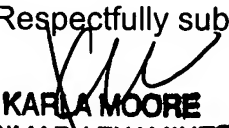
(2) **Maintain appeal.** Request that the appeal be maintained by filing a reply brief as set forth in 37 CFR 41.41. Such a reply brief must address each new ground of

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rejection as set forth in 37 CFR 41.37(c)(1)(vii) and should be in compliance with the other requirements of 37 CFR 41.37(c). If a reply brief filed pursuant to 37 CFR 41.39(b)(2) is accompanied by any amendment, affidavit or other evidence, it shall be treated as a request that prosecution be reopened before the primary examiner under 37 CFR 41.39(b)(1).


Extensions of time under 37 CFR 1.136(a) are not applicable to the TWO MONTH time period set forth above. See 37 CFR 1.136(b) for extensions of time to reply for patent applications and 37 CFR 1.550(c) for extensions of time to reply for ex parte reexamination proceedings.

Respectfully submitted,


KARLA MOORE
PRIMARY EXAMINER
Art Unit 1763
20 August 2007

A Technology Center Director or designee must personally approve the new ground(s) of rejection set forth in section (9) above by signing below:


GREGORY MILLS
QUALITY ASSURANCE SPECIALIST

Conferees: 
Romulo H. Delmon


PARVIZ HASSANZADEH
SUPERVISORY PATENT EXAMINER